

# RIS V




AHU with heat recovery


Centrales de traitement d'air avec récupération de chaleur

Lüftungsgeräte mit wärmerückgewinnung


Вентиляционные агрегаты с рекуперацией тепла

 Air handling units RIS have high efficiency plate heat exchanger. AHU is used for ventilation of houses and other heated areas.


- Efficient, low noise fans.
- Efficiency of plate heat exchanger up to 65%.
- Electrical or water heater.
- Controlled air flow.
- Supply air temperature control.
- Anti-freeze protection of the heat exchanger.
- Low noise level.
- Every unit is tested.
- RIS 260V - 1900V all versions can be controlled with UNI, PRO and TPC remote control devices.
- Acoustic insulation of the walls RIS 260V - 20 mm, RIS 400V, 700V - 30mm, RIS 1000V, 1500V, 1900V - 50 mm.
- RIS 260V - 1900V housing: powder coated painting RAL 7040.
- Easy mounting.

 Les centrales de traitement d'air avec récupération de chaleur RIS filtrent, chauffent et fournissent de l'air frais. Les centrales RIS prennent la chaleur de l'air extrait et la trans- fère dans l'air neuf.

- Ventilateurs efficaces et silencieux.
- Échangeur de chaleur à plaques, rendement thermique jusqu'à 65%.
- Batterie électrique ou à eau chaude.
- Débit d'air réglable.
- Régulation de la température de l'air insufflé.
- Protection antigel de l'échangeur de chaleur.
- Faible niveau de bruit.
- Chaque unité est vérifiée séparément.
- RIS 260V - 1900V avec système de commande et de contrôle intégré en utilisant les boîtiers de commande UNI, PRO et TPC.
- Isolation acoustique des parois de RIS 260V - 20 mm, RIS 400V, 700V - 30mm, RIS 1000V, 1500V, 1900V - 50 mm.
- Enveloppe RIS 260V - 1900V : peinte avec RAL 7040.
- Montage facile.

 Rekuperator-Einrichtungen RIS säubern, erwärmen und liefern frische Luft. RIS-Einrichtungen nehmen Wärme aus der ausgestoßenen Luft auf und leiten sie in die gelieferte Luft weiter.

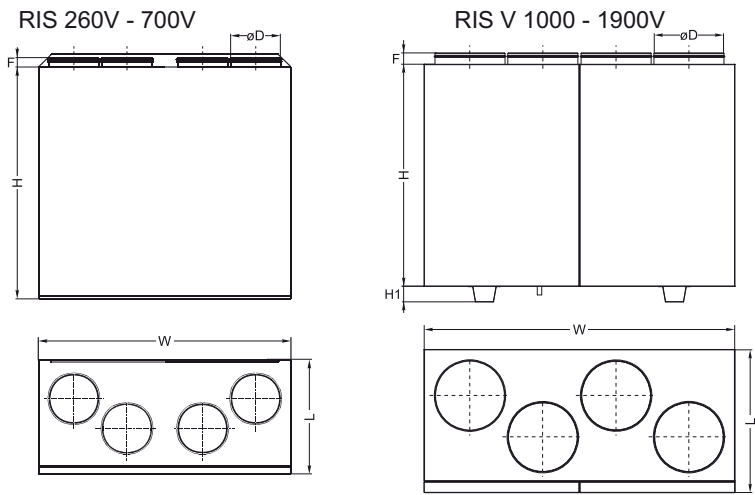
- Leistungsfähige und leise funktionierende Ventilatoren.
- Plattenwärmeaustauscher, Wärmerückgewinnungsgrad bis zu 65%.
- Elektrische oder Wasser-Erwärmungseinrichtung.
- Regelung des Luftstromes.
- Regelung der Temperatur der gelieferten Luft.
- Gefrierschutz des Wärmeaustauschers.
- Niedriges Geräuschniveau.
- Jedes Aggregat ist getrennt geprüft.
- RIS 260V - 1900V mit integrierten Steuerungs- und Überwachungsmöglichkeiten mithilfe von UNI, PRO und TPC Steuerpulten.
- Akustische Isolation der Wände RIS 260V - 20 mm, RIS 400V, 700V - 30mm, RIS 1000V, 1500V, 1900V - 50 mm.
- RIS 260V - 1900V das Gehäuse: gestrichen RAL 7040.
- Leicht montierbar.

 Установки с рекуперацией тепла RIS очищают, нагревают и подают свежий воздух. Установки RIS извлекают тепло у выходящего воздуха и передают его поступающему воздуху.

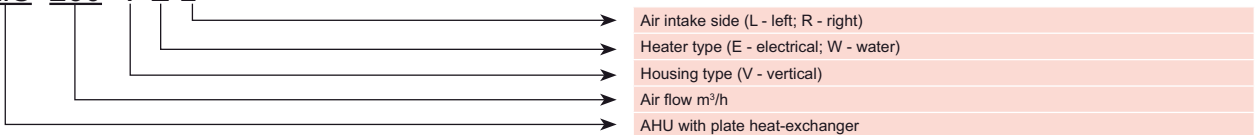
- Производительные и бесшумные вентиляторы.
- Пластинчатый теплообменник, эффективность теплоотдачи до 65%.
- Электрический или водяной нагреватель.
- Регулируемый воздушный поток.
- Регулируемая температура подаваемого воздуха.
- Защита теплообменника от замерзания.
- Низкий уровень шума.
- Каждый агрегат проверен отдельно.
- RIS 260V - 1900V с интегрированными возможностями управления и наблюдения с помощью пультов управления UNI, PRO и TPC.
- Акустическая изоляция стенок RIS 260V - 20 мм, RIS 400V, 700V - 30мм, RIS 1000V, 1500V, 1900V - 50 мм.
- RIS 260V - 1900V корпус: окрашенный RAL 7040.
- Легко монтируются.

## Accessories

Remote controller	Programmable controller	Programmable controller	Circular duct silencer	Shuft-off damper	Mounting clamp	Heating coil
						
UNI p. 154	PRO p. 153	TPC p. 152	AKS p. 198	SKG p. 194	AP p. 197	AVS p. 166



## RIS 260 V E L



Type	Dimensions [mm]					
	L	W	H	øD	H <sub>1</sub>	F
RIS 260VE/VW	295	598	680	125	-	30
RIS 400VE/VW	352	900	800	160	-	30
RIS 700VE/VW	462	950	845	200	-	30
RIS 1000VE/VW	645	1400	1000	315	70	40
RIS 1500VE/VW	645	1400	1000	315	70	40
RIS 1900VE/VW	790	1650	1100	400	70	65

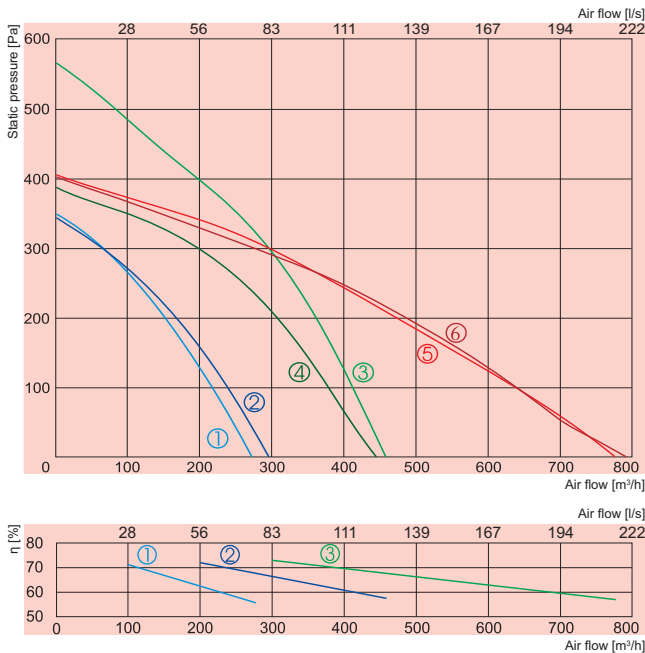
Type	Accessories										
	UNI PRO TPC	AKS SKG AP	AVS	PS	SP	TJK 10K CO4C***	SSB Heating	RMG 80/60°C	RMG 60/40°C	VVP/VXP 80/60°C	VVP/VXP 60/40°C
RIS 260VE	+	125	-	600	*	-	-	-	-	-	-
RIS 260VW	+	125	125	600	**	+	81	3-0,63-4	3-0,63-4	45.10-0,63	45.10-0,63
RIS 400VE	+	160	-	600	*	-	-	-	-	-	-
RIS 400VW	+	160	160	600	**	+	81	3-0,63-4	3-0,63-4	45.10-0,63	45.10-0,63
RIS 700VE	+	200	-	600	*	-	-	-	-	-	-
RIS 700VW	+	200	200	600	**	+	81	3-0,63-4	3-0,63-4	45.10-0,63	45.10-0,63
RIS 1000VE	+	315	-	-	*	-	-	-	-	-	-
RIS 1000VW	+	315	int	600	**	int	81	3-1,0-4	3-0,63-4	45.10-1,0	45.10-0,63
RIS 1500VE	+	315	-	600	*	-	-	-	-	-	-
RIS 1500VW	+	315	int	600	**	int	81	3-1,0-4	3-0,63-4	45.10-1,0	45.10-0,63
RIS 1900VE	+	400	-	600	*	-	-	-	-	-	-
RIS 1900VW	+	400	int	600	**	int	81	3-1,6-4	3-1,0-4	45.10-1,6	45.10-1,0

\* - 227S - 230 - 05 for the fresh air dampers  
 \*\* - 341 - 230 - 05  
 \*\*\* - anti-frost thermostat  
 int - already integrated into the unit

### Accessories

Differential pressure switch	Actuator for dampers	Duct sensor	Thermic water valve actuator	Mixing point	2 and 3 - way valves
PS p. 161	SP p. 163	TJK 10K p. 162	SSB p. 158	RMG p. 159	VVP/VXP p. 160

# RIS V



- ① — supply **RIS 260VE**
- ② — exhaust
- ③ — supply **RIS 400VE**
- ④ — exhaust
- ⑤ — supply **RIS 700VE**
- ⑥ — exhaust

- ① — **RIS 260VE**
- ② — **RIS 400VE**
- ③ — **RIS 700VE**

		260VE	400VE	700VE
Heater	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230	~1, 230
	-power consumption [kW]	1,0	2,0	3,0
Pre-heater for heat exchanger	[kW]	0,3	1,0	1,2
Fans	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230	~1, 230
exhaust	-power/current [kW/A]	0,075/0,32	0,207/0,91	0,205/0,89
	-fan speed [min <sup>-1</sup> ]	1880	2100	2000
supply	-power/current [kW/A]	0,080/0,35	0,198/0,87	0,203/0,88
	-fan speed [min <sup>-1</sup> ]	1880	1850	2000
Motor protection class		IP-44	IP-54/IP-44	IP-54
Thermal efficiency		55%	60%	60%
Max power consumption	[kW/A]	1,455/6,33	3,40/14,9	4,71/20,5
Automatic control		integrated	integrated	integrated
Filter class	-exhaust	G3	G3	G3
	supply	F5	F5	F5
Thermal insulation	[mm]	20	30	30
Weight	[kg]	40,0	68,0	82,0

Air flow temperature range from -20°C to +40°C

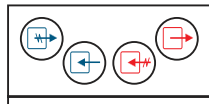
Designed for operation indoors only

Thermal efficiency of RIS 260VE was measured at 260m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

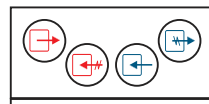
Thermal efficiency of RIS 400VE was measured at 400m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

Thermal efficiency of RIS 700VE was measured at 700m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

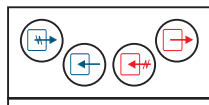
**RIS 260VEL**



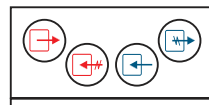
**RIS 260VER**



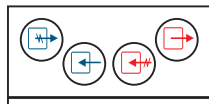
**RIS 400VEL**



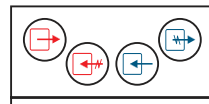
**RIS 400VER**



**RIS 700VEL**



**RIS 700VER**



View from inspection side

View from inspection side

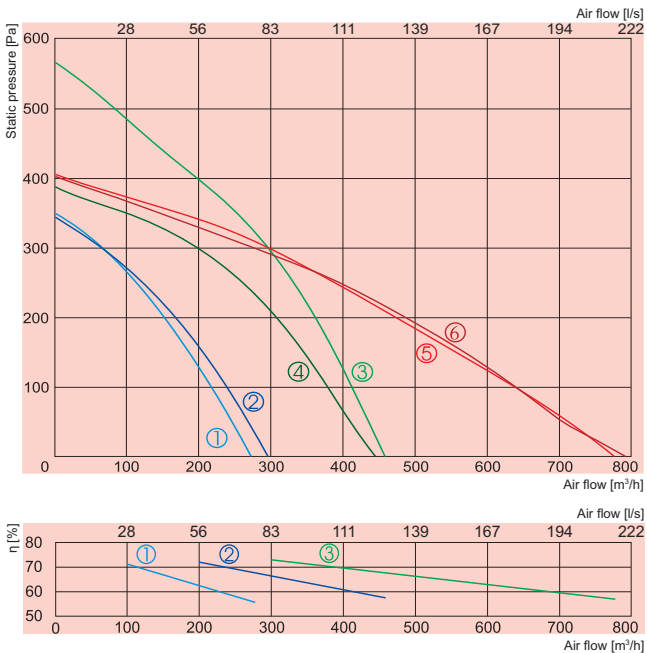
↔ Exhaust air

↔ Extract air

↔ Fresh air

↔ Supply air

# RIS V



- ① — supply **RIS 260VW**
- ② — exhaust
- ③ — supply **RIS 400VW**
- ④ — exhaust
- ⑤ — supply **RIS 700VW**
- ⑥ — exhaust

- ① — **RIS 260VW**
- ② — **RIS 400VW**
- ③ — **RIS 700VW**

**260VW      400VW      700VW**

Water heater	-power [kW]	AVS 125	AVS 160	AVS 200
	-water $T_{in}/T_{ou}$ [°C]			
	-water pressure drop [kPa]			
Pre-heater for heat exchanger	[kW]	0,3	1,0	1,2
Fans	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230	~1, 230
exhaust	-power/current [kW/A]	0,075/0,32	0,207/0,91	0,205/0,89
	-fan speed [min <sup>-1</sup> ]	1880	2100	2000
supply	-power/current [kW/A]	0,080/0,35	0,198/0,87	0,203/0,88
	-fan speed [min <sup>-1</sup> ]	1880	1850	2000
Motor protection class		IP-44	IP-54/IP-44	IP-54
Thermal efficiency		55%	60%	60%
Max power consumption	[kW/A]	0,455/1,98	1,40/6,09	1,6/6,96
Automatic control		integrated	integrated	integrated
Filter class	-exhaust	G3	G3	G3
	supply	F5	F5	F5
Thermal insulation	[mm]	20	30	30
Weight	[kg]	40,0	68,0	82,0

Air flow temperature range from -20°C to +40°C

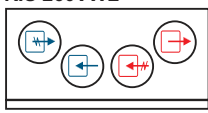
Designed for operation indoors only

Thermal efficiency of RIS 260VW was measured at 260m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

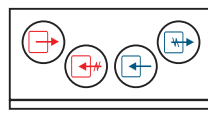
Thermal efficiency of RIS 400VW was measured at 400m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

Thermal efficiency of RIS 700VW was measured at 700m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

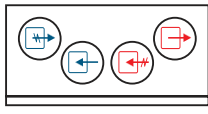
**RIS 260VWL**



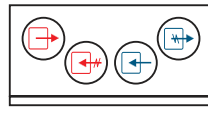
**RIS 260VWR**



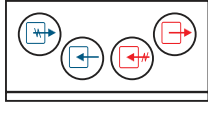
**RIS 400VWL**



**RIS 400VWR**



**RIS 700VWL**



**RIS 700VWR**



View from inspection side

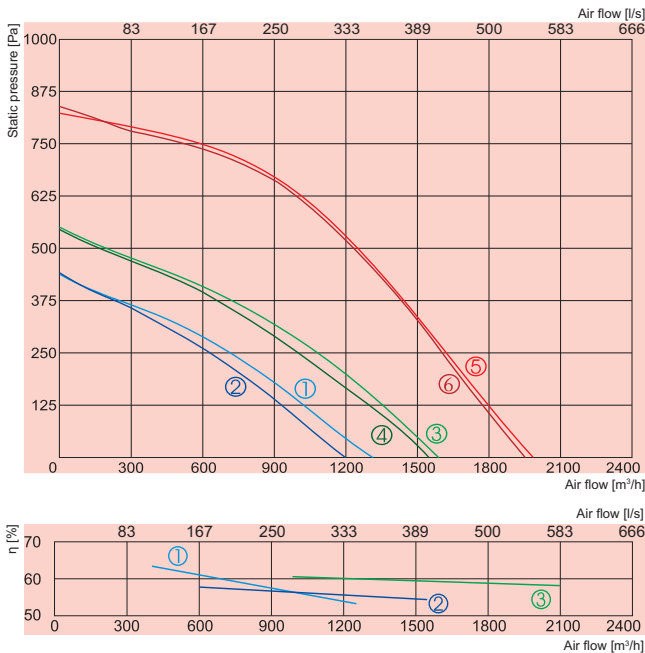
View from inspection side

Exhaust air   
 Extract air   
 Fresh air   
 Supply air

**SALDA**

AIR HANDLING UNITS

# RIS V



- ① — supply **RIS 1000VE**
- ② — exhaust
- ③ — supply **RIS 1500VE**
- ④ — exhaust
- ⑤ — supply **RIS 1900VE**
- ⑥ — exhaust

- ① — **RIS 1000VE**
- ② — **RIS 1500VE**
- ③ — **RIS 1900VE**

		1000VE	1500VE	1900VE
Heater	-phase/voltage [50Hz/VAC]	~3, 400	~3, 400	~3, 400
	-power consumption [kW]	6,0	9,0	15,0
Fans	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230	~1, 230
exhaust	-power/current [kW/A]	0,239/1,04	0,372/1,62	0,650/2,87
	-fan speed [min <sup>-1</sup> ]	2650	2750	2830
supply	-power/current [kW/A]	0,239/1,04	0,380/1,66	0,650/2,87
	-fan speed [min <sup>-1</sup> ]	2650	2750	2830
Motor protection class		IP-44	IP-44	IP-54
Thermal efficiency		54%	54%	60%
Max power consumption	[kW/A]	6,48/9,35	9,75/14,1	16,3/23,5
Automatic control		integrated	integrated	integrated
Filter class	-exhaust	F5	F5	F5
	supply	F5	F5	F5
Thermal insulation	[mm]	50	50	50
Weight	[kg]	150,0	150,0	260,0

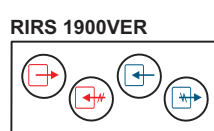
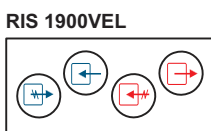
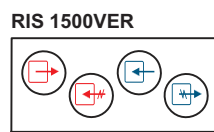
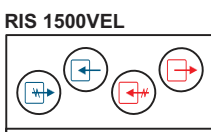
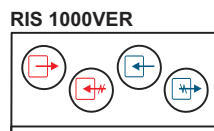
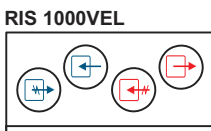
Air flow temperature range from -20°C to +40°C

Designed for operation indoors only

Thermal efficiency of RIS 1000VE was measured at 1000m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

Thermal efficiency of RIS 1500VE was measured at 1500m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)

Thermal efficiency of RIS 1900VE was measured at 1900m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)



View from inspection side

View from inspection side

- ↔ Exhaust air
- ↔ Extract air
- ↔ Fresh air
- ↔ Supply air

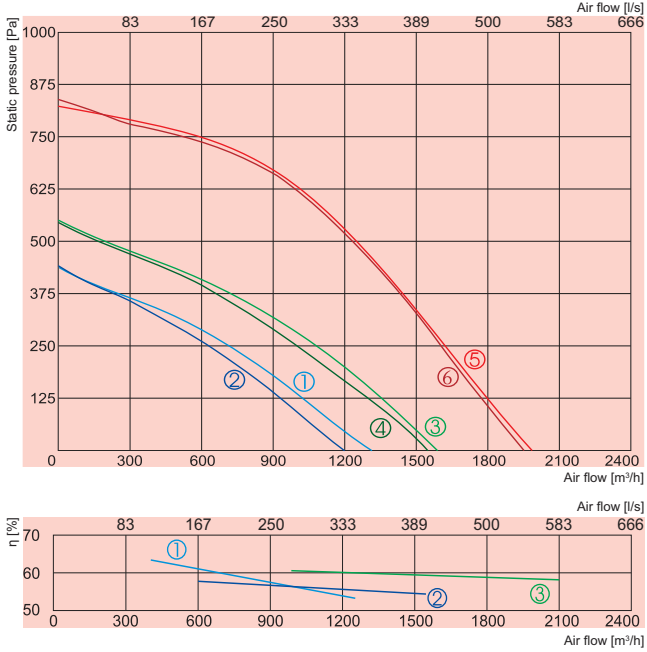
Supply air		Lwa, dB(A)									
1900VE	Lpa total dB(A)	Lwa, dB(A)									
		63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	16 kHz	
Inlet	62	69	44	53	63	64	64	56	49	43	45
Outlet at 1 m dist.	78	85	54	59	76	77	80	80	76	66	60

Measured at 1836 m³/h, 113 Pa

Exhaust air		Lwa, dB(A)									
1900VE	Lpa total dB(A)	Lwa, dB(A)									
		63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	16 kHz	
Inlet	63	70	50	61	63	66	64	56	49	41	42
Outlet at 1 m dist.	80	87	57	64	79	80	82	82	78	67	61

Measured at 1813 m³/h, 142 Pa

# RIS V



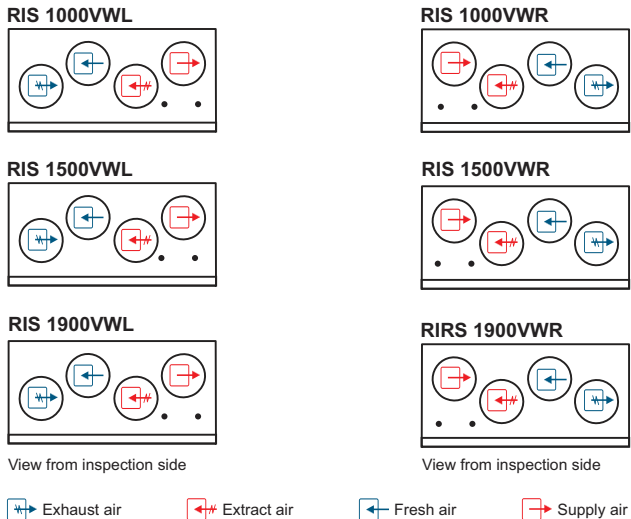
- ① supply **RIS 1000VW**
- ② exhaust
- ③ supply **RIS 1500VW**
- ④ exhaust
- ⑤ supply **RIS 1900VW**
- ⑥ exhaust

- ① **RIS 1000VW**
- ② **RIS 1500VW**
- ③ **RIS 1900VW**

	1000VW	1500VW	1900VW	
Water heater	-power [kW]	6,7	9,4	12,8
	-water temp. $T_{in}/T_{out}$ [°C]	80/60	80/60	80/60
	-water flow rate [l/s]	0,08	0,11	0,16
	-water pressure drop [kPa]	0,9	1,6	3,3
	-kvs value [m³/h]	3,1	3,2	3,2
Fans	-phase/voltage [50Hz/VAC]	~1, 230	~1, 230	~1, 230
exhaust	-power/current [kW/A]	0,239/1,04	0,372/1,62	0,650/2,87
	-fan speed [min <sup>-1</sup> ]	2650	2750	2830
supply	-power/current [kW/A]	0,239/1,04	0,380/1,66	0,650/2,87
	-fan speed [min <sup>-1</sup> ]	2650	2750	2830
Motor protection class		IP-44	IP-44	IP-54
Thermal efficiency		54%	54%	60%
Max power consumption	[kW/A]	0,478/2,08	0,752/3,27	1,3/5,65
Automatic control		integrated	integrated	integrated
Filter class	-exhaust	F5	F5	F5
	supply	F5	F5	F5
Thermal insulation	[mm]	50	50	50
Weight	[kg]	150,0	150,0	260,0

Air flow temperature range from -20°C to +40°C  
 Designed for operation indoors only

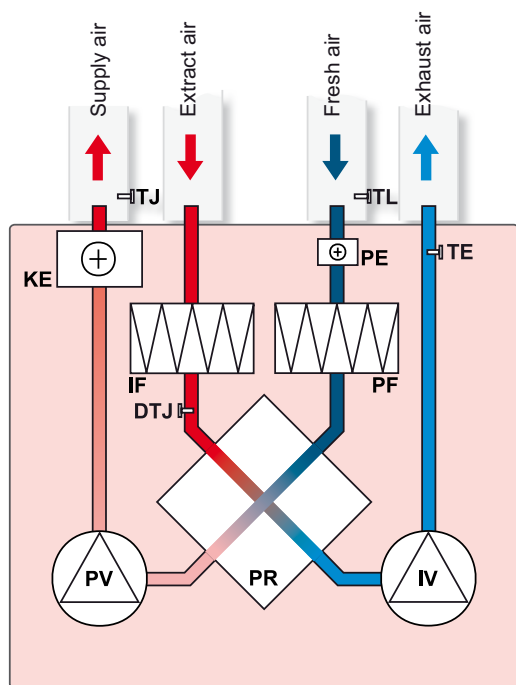
Thermal efficiency of RIS 1000VW was measured at 1000m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)  
 Thermal efficiency of RIS 1500VW was measured at 1500m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)  
 Thermal efficiency of RIS 1900VW was measured at 1900m³/h (indoor conditions +20°/60%; outdoor conditions -20°/90%)



Supply air		L <sub>wa</sub> , dB(A)									
1900VW	L <sub>pa</sub> dB(A)	L <sub>wa</sub> total dB(A)	L <sub>wa</sub> , dB(A)								16 kHz
			63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
Inlet	61	68	47	54	62	63	63	56	47	44	40
Outlet at 1 m dist.	76	83	52	59	77	75	77	77	72	62	53
Measured at 1648 m³/h, 167 Pa											
Exhaust air		L <sub>wa</sub> , dB(A)									
1900VW	L <sub>pa</sub> dB(A)	L <sub>wa</sub> total dB(A)	L <sub>wa</sub> , dB(A)								16 kHz
			63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
Inlet	61	68	44	58	62	63	62	55	48	43	42
Outlet at 1 m dist.	79	86	54	60	77	78	80	80	75	66	59
Measured at 1734 m³/h, 177 Pa											

# RIS V

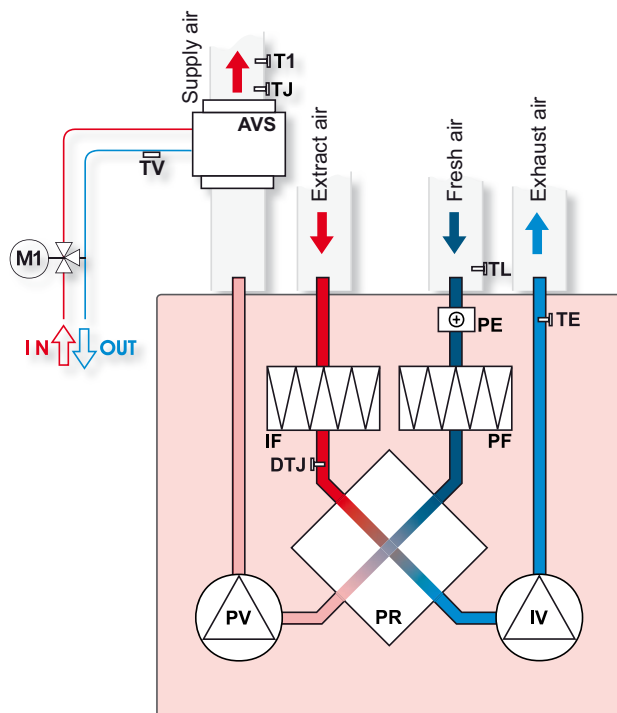
## RIS 260VE; 400VE; 700VE (vertical) versions with electrical heater \*



- IV - exhaust air fan
- PV - supply air fan
- PR - plate heat exchanger
- KE - electrical heater
- PE - anti-freeze heater for heat exchanger
- PF - filter for supply air (class F5)
- IF - filter for extract air (class G3)
- TJ - temperature sensor for supply air
- TL - temperature sensor for fresh air
- TE - temperature sensor for extract air
- DTJ - humidity + temperature sensor

\* - Summer cassette can be applied to all versions of RIS 260 VE; RIS 400 VE; RIS 700 VE. Used for closing-up of plate heat exchanger during warm period of the year when heat recovery is of no benefit.

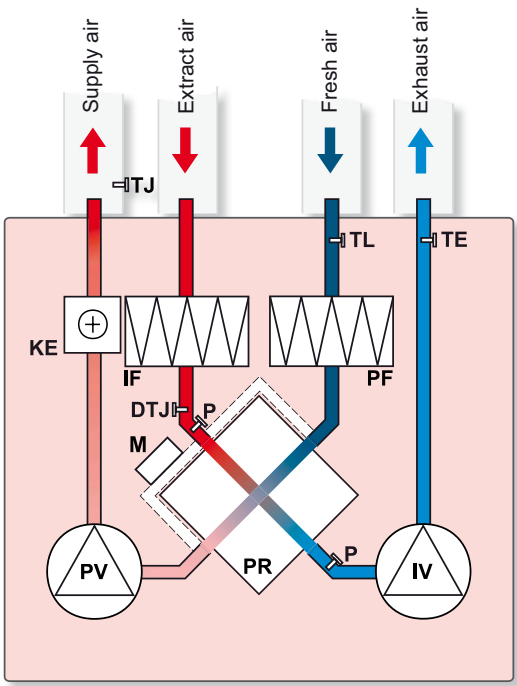
## RIS 260VW; 400VW; 700VW (vertical) versions with water heater \*



- AVS - optionally supplied water heater
- IV - exhaust air fan
- PV - supply air fan
- PR - plate heat exchanger
- PE - anti-freeze heater for heat exchanger
- PF - filter for supply air (class F5)
- IF - filter for extract air (class G3)
- TJ - temperature sensor for supply air
- TL - temperature sensor for fresh air
- TV - optionally supplied antifrost sensor
- T1 - optionally supplied antifrost thermostat
- TE - temperature sensor for extract air
- DTJ - humidity + temperature sensor
- M1 - optionally supplied mixing valve and motor

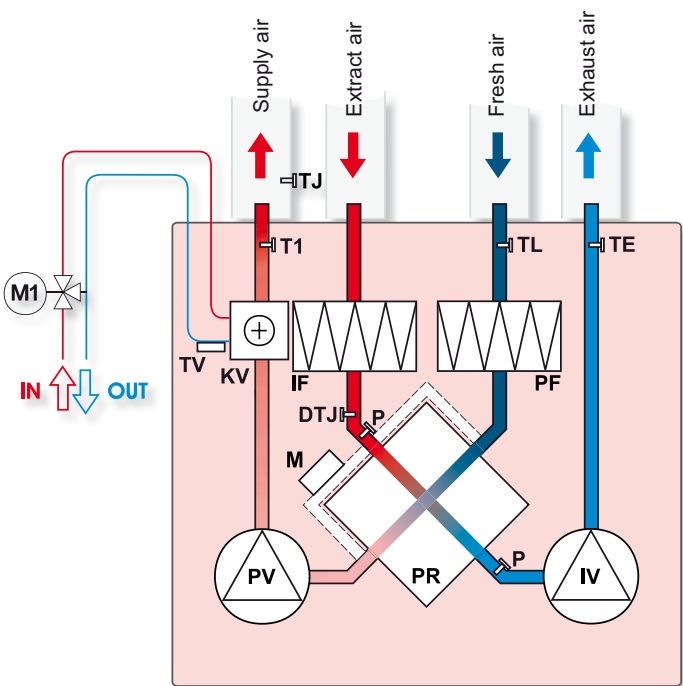
\* - Summer cassette can be applied to all versions of RIS 260 VW; RIS 400 VW; RIS 700 VW. Used for closing-up of plate heat exchanger during warm period of the year when heat recovery is of no benefit.

RIS 1000VE; 1500VE; 1900VE (vertical) versions with electrical heater



- IV - exhaust air fan
- PV - supply air fan
- PR - plate heat exchanger
- KE - electrical heater
- PF - filter for supply air (class F5)
- IF - filter for extract air (class F5)
- TJ - temperature sensor for supply air
- TL - temperature sensor for fresh air
- TE - temperature sensor for extract air
- DTJ - humidity + temperature sensor
- P - heat exchanger pressure switch
- M - by-pass damper

RIS 1000VW; 1500VW; 1900VW (vertical) versions with water heater



- IV - exhaust air fan
- PV - supply air fan
- PR - plate heat exchanger
- KV - water heater
- PF - filter for supply air (class F5)
- IF - filter for extract air (class F5)
- TJ - temperature sensor for supply air
- TL - temperature sensor for fresh air
- TE - temperature sensor for extract air
- DTJ - humidity + temperature sensor
- P - heat exchanger pressure switch
- T1 - antifrost thermostat
- TV - antifrost sensor
- M - by-pass damper
- M1 - optionally supplied mixing valve and motor